

REMARKS

Claims 27 and 51 have been amended. No new matter has been added. Claims 1-26 and 28-48 were previously canceled. Claims 27 and 49-51 remain pending in the application.

Claim 27, 49 and 51 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Application No. 2004/0144973 (“Li”). This rejection is respectfully traversed.

As amended, claim 27 recites an array of resistance variable memory cells comprising, *inter alia*, “a chalcogenide glass layer having metal ions diffused therein in contact with the first electrode and being capable of changing resistance under the influence of an applied voltage, a metal layer in contact with the chalcogenide glass layer, and a second electrode in contact with the metal layer.” This is illustrated below in a representative embodiment of the invention as shown in FIG. 2 of the present application.

Li does not disclose such elements. Li relates to forming active, doped chalcogenide layers in memory cells by using “activation energy sources... to drive [a] dopant material layer into ... chalcogenide material.” (Li, ¶0027). As shown in FIG. 3D of Li and illustrated below, Li discloses a memory cell consisting of a doped, active chalcogenide layer 310 between top and bottom electrodes. (Li, ¶0033, Fig. 3D).

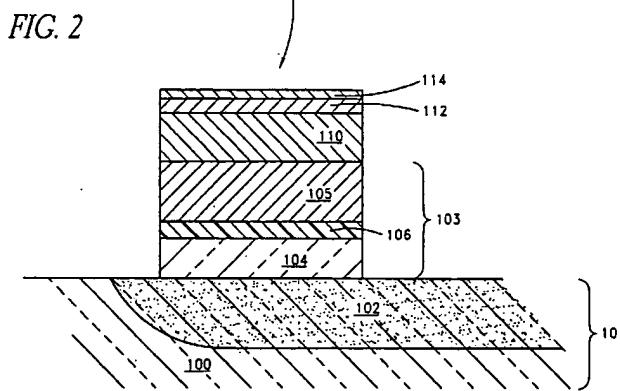


FIG. 2 of the present application

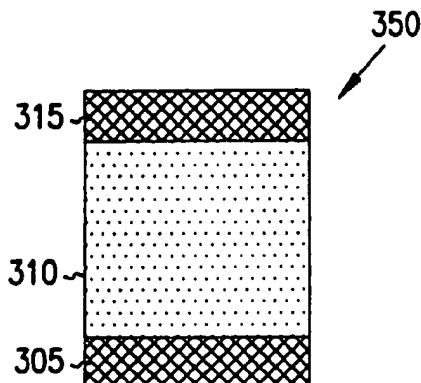


FIG. 3D of Li

Claim 27, however, necessarily requires a “a metal layer in contact with the chalcogenide glass layer.” The Office Action characterizes Li’s dopant layer 309/ barrier layer 308 as this metal layer. (Office Action at 2).

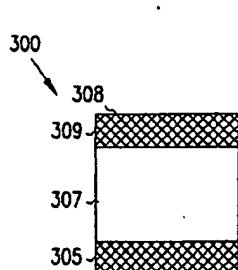


FIG. 3A

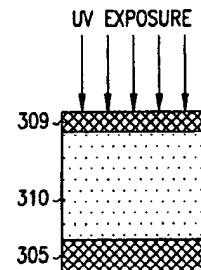


FIG. 3B

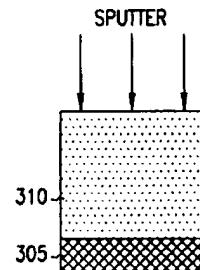


FIG. 3C

FIGs. 3A-3C of Li

Even assuming the Office Action’s characterization were correct, which it is not, Li discloses that the dopant layer 309 and the barrier layer 308 are “formed on” and then “driven into” and “fully integrated with the chalcogenide layer 307.” (Li, ¶¶0030, 0033; Illustrated above by FIGs. 3A-3C). Therefore, Li does not have “a metal layer in contact with the chalcogenide glass layer, and a second electrode in contact with the metal layer,” and consequently does not anticipate claim 27.

Claims 49 and 51 depend from claim 27 and are allowable for at least the same reasons as well as on their own merit. For at least these reasons, withdrawal of this rejection is respectfully requested.

Claim 50 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Li in view of U.S. Patent Application Publication No. 2004/0223390 (“Campbell”). This rejection is respectfully traversed.

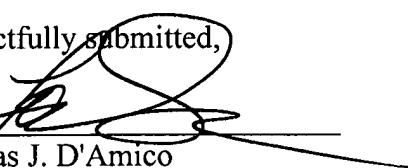
As discussed above, Li does not disclose, teach or suggest all limitations of amended independent claim 27, from which claim 50 depends. Campbell is cited for teaching the use of

either tungsten or silver to form electrodes, but does not supplement the deficiencies of Li. For at least these reasons, withdrawal of this rejection is respectfully requested.

In view of the above, Applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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